



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

**Department of Environmental  
Conservation**

DIVISION OF WATER  
Water Quality Standards Section

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January 22, 2016

Daniel Opalski  
Office of Water and Watersheds  
U.S. Environmental Protection Agency  
1200 Sixth Avenue  
Seattle, WA 98101

RE: Alaska's 2015-2017 Triennial Review

Dear Mr. Opalski,

In accordance with Clean Water Act section 303(c)(1), the Alaska Department of Environmental Conservation (DEC) has completed its 2015-2017 Triennial Review planning process and is notifying U.S. Environmental Protection Agency (EPA) Region 10 of DEC's Water Quality Standards priorities.

DEC issued public notice of the 2015-2017 Triennial Review cycle on January 12, 2015 and accepted comments until March 30, 2015. Public outreach took place at numerous venues including the Alaska Forum on the Environment, the Alaska Tribal Conference on Environmental Management, and via the Alaska Water Quality Standards listserv. A Responsiveness Summary is enclosed for EPA consideration.

**2015-2017 Triennial Review Priorities**

Based on the results of the public comment process, DEC stakeholder engagement, DEC/EPA discussions, and available state resources, DEC will be addressing the following topics over the next three years:

- Antidegradation Implementation Regulations
- Human Health Criteria
- Adoption of 2012 Recreational Water Quality Criteria (bacteria)
- Water Quality Standards Variance Authority
- Adoption of 2012 Standard Analytical Methods

In addition DEC will continue to work with EPA on

- Site - Specific Criteria proposals
- EPA action on previously submitted regulations and guidance for
  - 2006 Mixing Zones
  - 2011 Residues Criteria

### 304(a) Criteria not to be addressed during the 2015-2017 Triennial Review

Per EPA 2015 *Water Quality Standards Regulatory Revisions Final Rule*, DEC is providing a summary of the following 304(a) aquatic life criteria that will not be addressed during the 2015-2017 Triennial Review cycle.

- **Ammonia criteria for freshwater aquatic life** (2013): Alaska's geographic challenges limit its current understanding of the distribution of freshwater mussels and risk exposure. These implementation issues, as well as workload limitations with current resources, preclude adoption of the criteria during this Triennial Review cycle
- **Methylmercury human health criteria** (2001): DEC is currently working to address adoption of 2015 EPA-recommended Human Health Criteria and potential implementation issues specific to methylmercury. DEC anticipates specifically addressing this pollutant in future Triennial Review cycles.
- **Acrolein criteria for aquatic life** (2009): Acrolein criteria was promulgated for Alaska as part of the 1992 National Toxics Rule. This is a pollutant (biocide) primarily used for irrigation ditch weed control and algal management. Alaska is working on adoption of Acrolein human health criteria during this Triennial Review cycle but does not anticipate adoption of aquatic life criteria.
- **Carbaryl criteria for aquatic life** (2012): Carbaryl is a non-priority pollutant (pesticide) used for pest control and fruit thinning. Alaska has not previously adopted criteria for this pollutant. Carbaryl is not considered to be a pollutant of public concern in Alaska at this time and DEC will not be adopting 2012 EPA recommended criteria during the 2015-2017 Triennial Review cycle.
- **Copper criteria for aquatic life** (2007): Aquatic life criteria for copper were last adopted by Alaska following the EPA 1995 *Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water* (EPA-820-B-96-001, September 1996). DEC is well aware of the biotic ligand model and is considering how it could be implemented beyond site specific applications. However, due to the data collection challenges associated with developing a statewide criterion in a state as geographically diverse as Alaska is, DEC will not be considering this issue as part of the 2015-2017 Triennial Review.
- **Nutrient criteria for aquatic life** (2003): Alaska addresses nutrients through narrative criteria at 18 AAC 70.020(11) and (23) Toxic and Other Deleterious Organic and Inorganic Substances: There may be no concentration of toxic substances in water or in shoreline or bottom sediments, that, singly or in combination, cause, or reasonably can be expected to cause, adverse effect on aquatic life or *produce undesirable or nuisance aquatic life*, except as authorized by this chapter (emphasis added). Alaska is not currently considered part of the National Nutrient Strategy. DEC does not consider nutrients to be an imminent and widespread threat in Alaska at this time. Alaska is continuing to monitor this issue on a site-specific basis based on the 2004 Alaska Nutrient Criteria Development Plan approved by EPA.

Alaska appreciates EPA's comments submitted during the 2015-2017 Triennial Review public comment period and looks forward to continued collaboration with EPA. For additional questions or concerns regarding the triennial review process, please contact Brock Tabor at [brock.tabor@alaska.gov](mailto:brock.tabor@alaska.gov).

Sincerely,



Michelle Hale  
Director

Enclosure

Cc Angela Chung, EPA R10  
Bill Beckwith, EPA R10  
Nancy Sonafrank, DEC  
Brock Tabor, DEC

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**RESPONSIVENESS SUMMARY**  
**2015-2017 TRIENNIAL REVIEW OF WATER QUALITY STANDARDS**

**Summary**

Under Clean Water Act (CWA) §303(c) states are required to periodically review water quality standards to ensure they accurately reflect the latest scientific knowledge and adopt EPA recommended criteria under CWA §304(a). This process typically occurs every three years and is known as the Triennial Review. The Alaska Department of Environmental Conservation (DEC) conducts the Triennial Review as a planning process to promote transparent and accountable regulation development, to encourage public and stakeholder comments as part of the public notification process, and to provide the public with DEC's responses to public comments. This document serves as that response.

**Background**

DEC initiated the 2015-2017 triennial review cycle in January 2015. The Triennial Review provides an opportunity for the public to review existing water quality standards and DEC-identified issues of concern, and provide feedback on the priorities and commitments DEC makes regarding development and/or revision of the water quality standards.

A public notice of the initiation of the 2015-2017 Triennial Review was published on the State of Alaska Public Notice webpage, in emails to the DEC-Water Quality Standards Listserv, and in the Anchorage Dispatch News on January 9, 2015. Material available for public review included the *2015-2017 Triennial Review Water Quality Standards Issues Summary* and factsheets on the Triennial Review process, antidegradation, human health criteria and turbidity. A 30-day extension was requested by five different tribes and issued on February 26, 2015. The public comment period closed on March 30, 2015. DEC conducted public presentations on the Triennial Review process, issues of interest, and how to submit public comments to DEC at various public and private venues.

DEC received a total of 17 sets of comments during the public comment period. The following summarizes the source(s) of comments.

**Table 1: Water Quality Comment Information**

| <b>Comment Originator</b>  | <b>Number of comment letters</b> |
|--|----------------------------------|
| <b>Alaska Native Organizations</b><br>Organized Village of Kasaan, Klawock Cooperative Association, Tribe; Native Village of Port Graham; Regional Tribal Operations Committee-Region 10; Central Council of the Tlingit and Haida Indian Tribes of Alaska; Seldovia Village Tribe; Sun'aq Tribe of Kodiak | 7                                |
| <b>Government Agencies</b><br>U.S. Environmental Protection Agency; U.S. Fish and Wildlife Service   | 2                                |
| <b>Industry</b><br>Copper Development Association, Pacific Shellfish Processors Assoc., Tetra Tech   | 3                                |

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| <b>Comment Originator</b>  | <b>Number of<br/>comment letters</b> |
|--|--------------------------------------|
| <b>Non-Governmental Organizations</b><br>(Bristol Bay Heritage Land Trust; Center for Biological Diversity.,<br>Southeast Alaska Conservation Council) | 3                                    |
| <b>Private Citizens</b><br>Gershon Cohen, Tim Greene   | 2                                    |

DEC has reviewed all comments received during the public comment period and taken them into consideration when developing its final prioritization of issues. The final prioritization of issues will be used to develop a work plan and schedule for regulations development during the 2015-2017 Triennial Review period. There will be additional opportunities for the public to comment on those rulemaking proposals that may occur during the 2015-2017 Triennial Review period.

**Public and Stakeholder Responses to the Triennial Review Issues**

The Triennial Review issues drew a total of 17 comment letters over the 60 day comment period. Comments addressed the following issues:

- Aluminum-aquatic life criteria
- Ammonia: aquatic life criteria
- Antidegradation
- Bacteria: Recreational criteria
- Copper: aquatic life criteria and Biotic Ligand Model (BLM)
- Decision making process-data collection
- Definitions of fresh and marine waters
- Dissolved Solids: human health criterion
- Emerging pollutants of concern
- Human Health Criteria
- Iron
- Manganese: human health criterion
- Ocean Acidification
- Residues
- Standard Analytical Methods

The following is a summary of the comments received on the Triennial Review issues during the public comment period. More extensive comments have been generalized although key quotations are included to provide context in certain instances. DEC's response to a comment, or similar group of comments, can be found in the right hand column.



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**Table 2: Triennial Review Issues, Public Comments and DEC Response**

| <b>Topic</b>                    | <b>Comment Summary</b>   | <b>DEC Response</b>   |
|---------------------------------|--|---|
| Aluminum: aquatic life criteria | DEC received one comment regarding the application of aquatic life criteria for aluminum. The commenter noted that there is limited scientific data supporting U.S. Environmental Protection Agency (EPA) recommended values and that other states have since rescinded the aluminum criteria. | DEC last updated the aluminum criteria in 2009. While DEC does not actively pursue aquatic toxicological research, staff are receptive to new developments and their potential to provide scientific rigor to water quality criteria. DEC believes that placing this issue under “Issues for Tracking and Monitoring” (Category C) is an appropriate categorization as DEC continues to gather information on this issue, evaluate potential sources and waters affected by aluminum discharges, and the distribution of sensitive species. |
| Ammonia: aquatic life criteria  | DEC received one comment on this issue. EPA cites the 2013 recommended update to aquatic life-freshwater criteria for ammonia and encourages DEC to consider adoption of ammonia criteria as part of the 2015-2017 work plan.  | DEC acknowledges EPA’s comment and is considering its response. DEC believes that placing this issue under “Issues for Tracking and Monitoring” (Category C) is an appropriate categorization as DEC continues to gather information on this issue, evaluate potential sources and waters affected by ammonia discharges, and the distribution of sensitive species.  |
| Antidegradation <sup>1</sup>    | DEC received three comments on this issue. All three addressed general concerns about the process used to develop the implementation regulations.  | DEC acknowledges that development of implementation regulations has been a lengthy process. DEC held an additional public workshop on the proposed regulatory language on May 13-14, 2015. New draft regulations will be proposed with an   |

<sup>1</sup> Denotes a High Priority Issue previously identified by DEC

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| Topic   | Comment Summary   | DEC Response   |
|---|---|--|
|   |   | additional public comment period by mid-2016 and final adoption anticipated by the end of 2016.  |
| Bacteria  | DEC received two comments on this issue. One comment was in regards to a statutory requirement (under the Beaches Environmental Assessment and Coastal Health Act) for DEC to adopt 2012 recreational criteria in a timely manner. The other comment focused on the need to characterize the population at risk and to ensure that the most current detection methods are applied.  | DEC is actively working on adoption of the EPA-recommended 2012 Recreational Water Quality Criteria for bacteria. DEC will also be reviewing its bacteria criteria for other designated uses in both fresh and marine waters to ensure that it is considering new science and policy. DEC anticipates a public notice of proposed recreational water quality criteria to be released in 2016.  |
| Copper: aquatic life criteria and Biotic Ligand Model (BLM) | <p>DEC received multiple comments on this issue. DEC was encouraged to consider adoption and application of the BLM for establishing copper values on a statewide and site specific basis. One commenter stressed the importance of having reliable water quality data for application of the model to be successful. This commenter also encouraged DEC and the Alaska University system to determine gill tissue ion channel constraints for all five species of salmonids in Alaska.</p> <p>DEC also received a comment that Alaska's existing aquatic acute and chronic criteria are not protective due to sub-lethal effects caused by low concentrations of copper.</p> | <p>DEC recognizes the need to familiarize itself with application of the BLM for copper. DEC currently allows for application of BLM when considering site-specific criteria requests in accordance with the "incremental implementation" approach EPA recommends in guidance on Copper BLM: Implementation (2007).</p> <p>DEC will continue to gather information on copper toxicity and will explore processes for BLM data collection and processing. However, DEC is not considering adoption of the BLM copper criteria on a statewide basis during the 2015-2017 Triennial Review period due to data limitations and workload constraints.</p> |
| Decision making process-data collection                     | DEC received one comment suggesting that there is a general need for DEC to require adequate baseline water quality data when making decisions associated with the APDES program.   | DEC thanks the commenter for their concern and strives to apply the best available science in the decision-making process.   |



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| Topic                                       | Comment Summary  | DEC Response   |
|---|--|--|
| Definitions of Fresh and Marine Waters      | DEC received a single comment stating a need to establish definitions for fresh and marine waters at 18 AAC 70.990 for the purposes of determining what criteria are applicable in estuarine locations.  | DEC acknowledges the request to develop a formal definition of fresh and marine waters and will research this issue as Department resources allow.   |
| Dissolved Solids: human health criterion    | DEC received one comment suggesting removal of the numeric water quality criterion for Total dissolved solids (18 AAC 70.020(4)(A)(i) drinking, culinary, and food processing) of 500 mg/L for human consumption of water. This includes 250 mg/L maximums for chloride or sulfate. The commenter suggests that there is no scientific health basis for these standards and they are inappropriately applied by the State of Alaska. | DEC believes that placing this issue under “Issues for Tracking and Monitoring” (Category C) is an appropriate categorization as DEC continues to gather information on this issue, evaluate potential sources, and identify waters affected by Dissolved Solids discharges.   |
| Emerging Pollutants                         | DEC received one comment noting that this issue should be elevated in importance with emphasis on identifying documentation of the presence and/or role of potentially harmful leachates.  | DEC recognizes the importance of actively monitoring this issue on a national level as well as at the state level. DEC regularly engages with other state/federal agencies in the identification and monitoring of historic, current, and emerging sources of pollution. DEC will continue to monitor EPA’s research and findings on emerging pollutants and consider new recommended criteria and monitoring methods. |
| Human Health Criteria: General <sup>2</sup> | DEC received ten comments citing human health criteria as being a high concern. Comments were focused on three primary concerns: <ul style="list-style-type: none"> <li>○ Need to revise fish consumption rates used in the criteria formula</li> <li>○ Need to revise the Cancer Risk value at 18 AAC 70.025 from <math>10^{-5}</math> to <math>10^{-6}</math></li> </ul>   | DEC recognizes the importance of this issue to the public and that certain values used during the initial establishment of criteria need to be updated. DEC is actively engaging with stakeholders to develop criteria that will be scientifically defensible and protective. To date, DEC has developed a technical working group made up of stakeholders to address key technical                                    |

<sup>2</sup> Denotes a High Priority Issue previously identified by DEC



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| <b>Topic</b>                      | <b>Comment Summary</b>   | <b>DEC Response</b>   |
|-----------------------------------|--|---|
|                                   | <ul style="list-style-type: none"> <li>○ Need to work with tribal and regional stakeholders to develop regionally appropriate criteria</li> </ul>  | concerns in the human health criteria formula, held a two day public workshop, and provided presentations at numerous public forums. This is a high priority issue that will continue to be addressed during the 2015-2017 Triennial Review cycle.  |
| Iron                              | DEC received one comment on this issue. DEC is encouraged to conduct a review of this issue and consider adoption of criteria that are based on sound evidence and reflect physical conditions rather than direct toxicological effects.   | DEC believes that placing this issue under “Issues for Tracking and Monitoring” (Category C) is an appropriate categorization as DEC continues to gather information on this issue, evaluate potential sources and waters affected by iron discharges, and the distribution of sensitive species. |
| Manganese: human health criterion | DEC received two comments on this issue. DEC is encouraged to reconsider accepted exposure parameters and develop a more scientifically defensible water-specific toxicity factor.   | DEC appreciates these comments and will consider the accepted exposure values in the manganese human health criteria as it works on the human health criteria issue in general during the 2015-2017 Triennial Review cycle.   |
| Ocean Acidification               | DEC received two comments noting the importance of this issue. DEC is encouraged to consider ocean acidification issues in all marine monitoring efforts including:<br>(1) modification of its water quality standard for pH;<br>(2) adoption of an additional standard for aragonite saturation; and<br>(3) adoption of acceptable calcification rates for target calcifiers. | DEC considers ocean acidification to be an emerging issue that DEC will monitor as resources allow.   |
| Residues                          | DEC received one comment noting the need for DEC to engage with EPA and complete the water quality standard approval process for residue criteria.   | DEC recognizes the importance of concluding the regulatory process for residue criteria. DEC plans to actively engage EPA on this issue during the 2015-2017 Triennial Review and encourage EPA to complete its review and approval of the 2011 revised   |

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| Topic                                    | Comment Summary  | DEC Response   |
|--|--|--|
|  |  | residue criteria for use in Alaska's water pollution control programs.   |
| Standard Analytical Methods <sup>3</sup> | DEC received one comment on this issue. DEC is encouraged to complete timely adoption of EPA-recommended methods and criteria. | DEC is actively engaged with EPA on this issue and expects to adopt final regulations in 2016 and will submit the regulations to EPA for approval. |

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<sup>3</sup> Denotes a High Priority Issue previously identified by DEC